NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

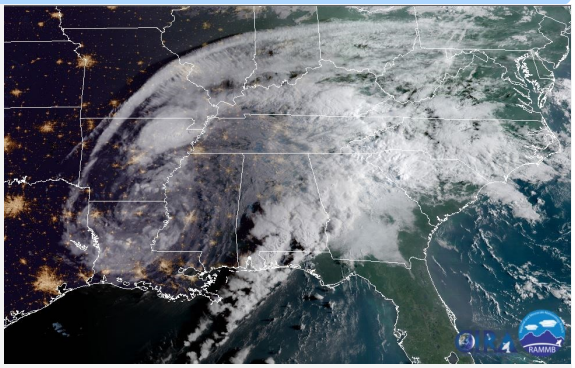
Social Science Community Newsletter

Volume 14, July/August 2017 ~ Sharing knowledge for better practices

Hurricane Harvey — The Next Billion-Dollar Weather and Climate Disaster?

By Adam Smith, Physical Scientist, National Centers for Environmental Information

Hurricane Harvey will likely appear on the list of Billion-Dollar Weather and Climate Disasters that NOAA's National Centers for Environmental Information (NCEI) maintains. News outlets report that the private insurance industry could lose between $10 billion to $20 billion. However, this mostly reflects the wind and coastal storm surge losses. The legacy of Harvey will be the historic, inland flood damages, which are easily in the tens of billions of dollars. Unfortunately, many of these losses will be uninsured given that less than 20% of residences in Houston have flood insurance through the Federal Emergency Management Agency's National Flood Insurance Program. It is unclear if Harvey's costs will ultimately surpass Katrina, which is the most costly disaster to affect the U.S. since 1980. Katrina cost an estimated $160 billion.



GOES-16 image taken on August 31, 2017 of the remnants of Hurricane Harvey. At 4:00 am CDT, NOAA's National Hurricane Center reported that Harvey would be over northwestern Mississippi by this afternoon, the western Tennessee Valley region on Friday (9/1), and into the lower Ohio Valley early Saturday (9/2). The storm is expected to dissipate by Saturday afternoon. **Credit:** NOAA

Hurricane Harvey, continues on page 3

Story Map Focuses on NOAA's Contribution to the U.S. Economy

Story maps are a great way to publicize the great work that NOAA does and to demonstrate the impact that the agency has on society. Since May 2017, the agency has produced story maps monthly. The Chief Economist's Office worked closely with NOAA Communications to produce the July 2017 story map titled "*NOAA Protects Every American…Powers Our Economy*." It illustrates how the agency's work contributes to the U.S. Economy.

Visit https://ww.performance.noaa.gov/economics/ to learn more about the NOAA Chief Economist's office.

Upcoming Events

October 10-11, 2017: Innovation for a Sustainable Ocean Economy: Developing the Economic Potential of our Seas and Oceans while Preserving and Improving Ecosystem Health, Paris, France
www.innovationpolicyplatform.org/ocean-economy-and-innovation

November 27-28, 2017: World Forum on Natural Capital , Edinburgh, Scotland
naturalcapitalforum.com

November 29 - December 1, 2017: 5th Sustainable Ocean Summit, Halifax, Canada
sustainableoceansummit.org

December 11- 15, 2017: American Geophysical Union Fall Meeting New Orleans, Louisiana
allmeeting.agu.org/2017/

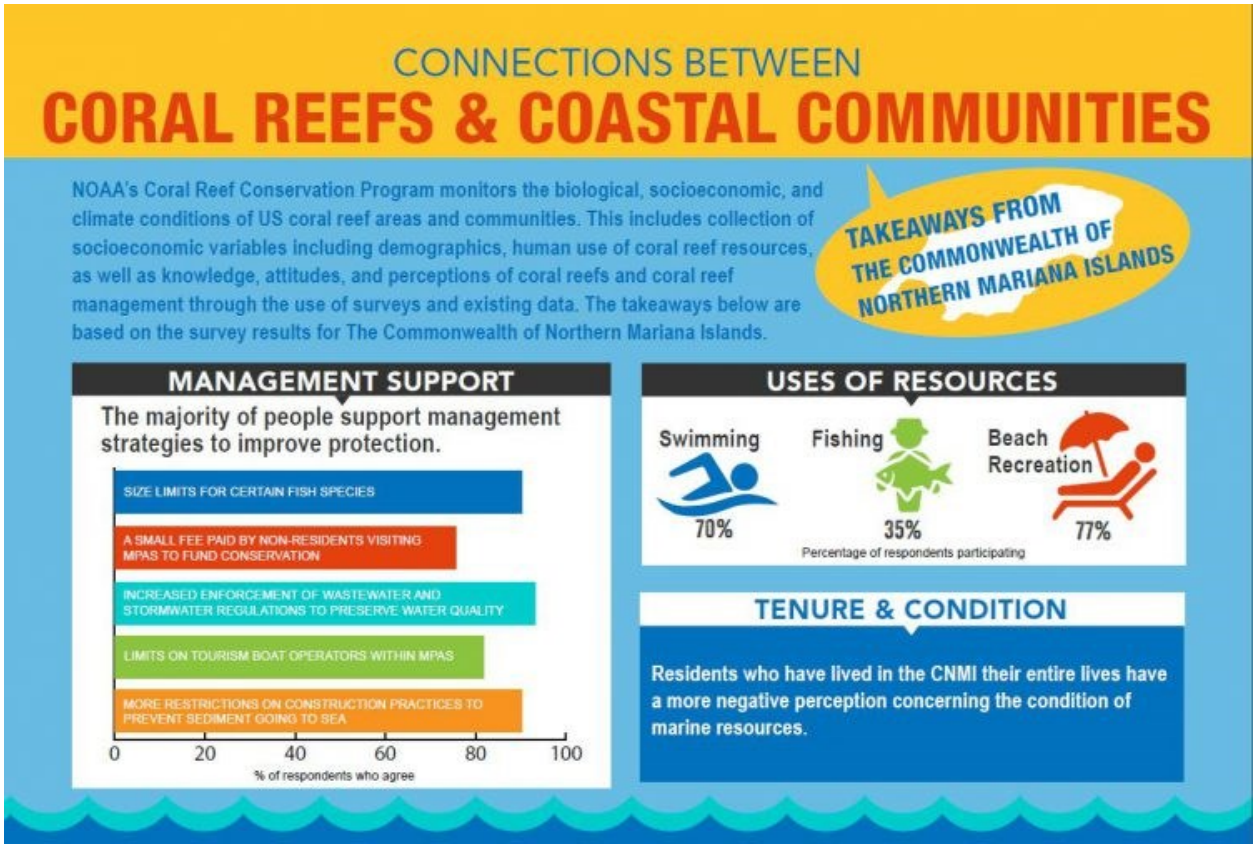
February 5 - 8, 2018: Social Coast Forum: Social Science for Coastal Decision-Making, Charleston, South Carolina
More Information
Abstracts due September 29, 2017

August 26-30, 2018: National Conference on Ecosystem Restoration, New Orleans, Louisiana
conference.ifas.ufl.edu/ncer2018/index.html
Session Proposals due October 1, 2017

National Coral Reef Monitoring Project Releases New Infographics from Socioeconomic Surveys

Source: National Centers for Coastal Ocean Science

NOAA social scientists and their partners collect a variety of socioeconomic data in seven U.S. coral jurisdictions as part of the National Coral Reef Monitoring project. The information collected includes demographics, human use, and attitudes and perceptions of coral reefs and coral reef management. The overall goal of the socioeconomic monitoring component is to track relevant information regarding each jurisdiction's population, social and economic structure, the impacts of society on coral reefs, and the impacts of coral management on communities. Snapshots of the most recent data from the Commonwealth of Northern Mariana Islands (CNMI) and the U.S. Virgin Islands (USVI) are now available as infographics.



An excerpt from the newly released socioeconomic coral infographic for the Commonwealth of Northern Mariana Islands. **Credit:** NOAA

Using a stratified random sampling approach, each survey targeted CNMI and USVI residents over the age of 18, individually. The research team conducted phone surveys, via the random digit dial method, as well as face-to-face surveys. Residents were sampled proportionate to the total population of each jurisdiction, and the samples are statistically representative of CNMI and USVI.

For more information on these surveys and to access the full infographics, visit: https://ww.coris.noaa.gov/monitoring/socioeconomic_CNMI.html and https://ww.coris.noaa.gov/monitoring/socioeconomic_USVI.html.

Did You Know?

Shallow tropical reefs in the Indian and Pacific Oceans boast the most coral species.

Almost 800 species of reef-building corals have been identified, with new discoveries occurring each year.

Source: NOAA Coral Reef Conservation Program

Study Examines the Economic Benefits of Habitat Restoration

Source: Office of Habitat Conservation, National Marine Fisheries Service

A healthy economy depends on a healthy environment. NOAA received $167 million dollars from the American Reinvestment and Recovery Act (ARRA) of 2009 to restore coastal areas throughout the country. The goal was to scale up NOAA's existing successful restoration efforts to include entire watersheds or landscapes important to the environment and the economy. A research team analyzed data from 125 funded projects to examine their impact on local economies. The analysis determined that coastal restoration projects could provide significant long-term benefits through the rehabilitation and strengthening of the ecosystem services restored areas provide.

Staking Eyak Lake, Alaska **Credit:** NOAA

Key Results:

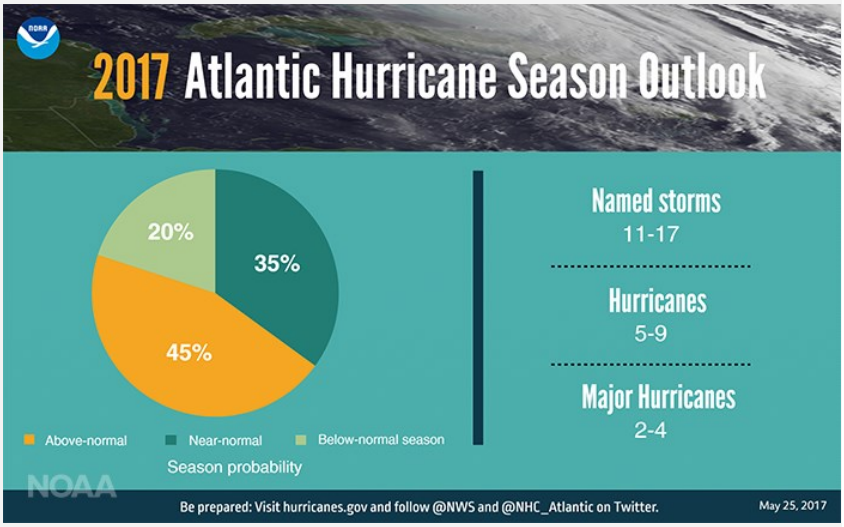
- Restored 25,584 acres of habitat, opened 677 miles of stream for fish to reach spawning habitat, and removed 433,397 tons of debris from coastal habitats.
- Expended $154.1 million dollars on projects to generate $260.5 million dollars annually.
- Contributed $143.7 million dollars in new or expanded economic activity nationwide.

Access the full report from http://www.habitat.noaa.gov/pdf/TM-OHC-1.pdf

For more information on the study, contact Giselle Samonte at giselle.samonte@noaa.gov

Hurricane Harvey, continued from page 1

Assessing the economic and societal impacts of weather and climate extreme events, to place those events in historical perspective, is part of NCEI's responsibility. In 2017 (as of July 7), there have been nine weather and climate disasters with losses exceeding $1 billion each across the United States. These events included two flooding events, one freeze event, and six severe storm events. Since 1980, there have been over 200 separate events where damages/costs exceeded $1 billion (including CPI adjustment to 2017). The total cost of these events is over $1.2 trillion.



NCEI's next quarterly U.S. Billion-Dollar Disaster release is scheduled for Friday, October 6. A number of interactive new maps, charts and tables will be updated at this time. For additional information, please see https://ww.ncdc.noaa.gov/billions/.

Social Scientist Spotlight

Dr. Michael Jepson, Anthropologist, Southeast Regional Office, National Marine Fisheries Service

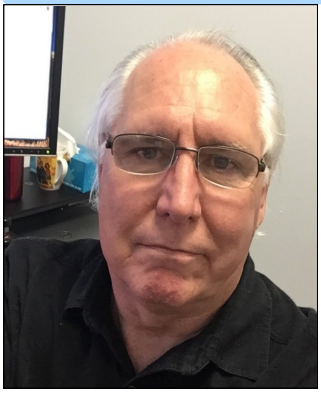


Photo courtesy of Dr. Mike Jepson

What He Does: Mike is an anthropologist with NOAA Fisheries' Southeast Regional Office (SERO) in St. Petersburg, Florida. Since 2009, he assists with social impact assessments and provides technical guidance on social science needs for the Agency and the South Atlantic, Gulf and Caribbean Councils.

His Background: From 1994 to 1999, he was a social scientist at the South Atlantic Fishery Management Council. Then he was a contract researcher in the U.S. South Atlantic and Gulf coasts and the Virgin Islands. Just before joining NOAA, Mike was Program Director for the Gulf and South Atlantic Fisheries Foundation. He served on the Gulf of Mexico Fishery Management Council's Socioeconomic Scientific and Statistical Committee for more than 20 years and has taught classes in anthropology and community science at several institutions including the University of Florida, University of South Alabama, and College of Charleston.

An Important Accomplishment: Since arriving at SERO Mike have been involved in the development of a national set of Community Social Vulnerability Indices that are currently used within fishery management plans, catch share program reviews and integrated ecosystem assessments in several regions of the US.

Biggest Misconception about Social Science: That social science is a "soft" science when compared to the natural sciences. We are perfectly capable of developing a social impact analysis that is scientifically rigorous if given the time and the data. But, the crucial part of that statement comes down to the "time and the data." As we continue to rebuild our fisheries, the management problems will revolve more and more around issues of social and economic concerns and I am not sure that we have all the necessary tools to undertake the kinds of analyses that will be needed.

A Fun Fact About Mike: Mike shook hands with Lyndon Baines Johnson

Reach Mike at michael.jepson@noaa.gov

Green Infrastructure Effectiveness Database Now Available

Source: Office for Coastal Management

Coastal managers, planners, and decision makers need ready access to information on how, where, and under what conditions to use green infrastructure techniques for improving resilience to coastal hazards. To help meet this need, NOAA compiled information from a range of literature sources that report on the effectiveness of green infrastructure—including economic analysis as a methodological approach—to reduce the impacts of coastal hazards.

Living shoreline in front of Duke University's Marine Lab **Credit:** NOAA

The information is organized in an online, searchable database of records that includes basic information from each literature source, key findings, characteristics that influence effectiveness, and a link to the original source if it is available. The records will help users discover whether they want to explore the original sources; however, specific information should not be cited from the database records without reading the original literature source. The database can also be used to quickly ascertain the scope of literature, general trends in information, and existing gaps in research and reporting.

Access the database at https://coast.noaa.gov/digitalcoast/training/gi-database.html

Recent Social Science Publications

* Pendleton, L.. and P. Edwards. 2017. "Measuring the Human 'So What' of Large-Scale Coral Reef Loss." *Biodiversity* 18(1): 13-15.
* Drakou, E.G., L. Pendleton, M. Effron, J.C. Ingram, L. Teneva. 2017. "When Ecosystems and Their Services Are Not Co-Located: Oceans and Coasts." *ICES Journal of Marine Science*. Volume 74 (6): 1531–1539.
* Samonte, G., P. Edwards, J. Royster, V. Ramenzoni, and S. Morlock. 2017. *Socioeconomic Benefits of Habitat Restoration*. NOAA Technical Memorandum. NMFS-OHC-1, 66 p.
* Grace-McCaskey, C.A. 2016. *Understanding Hawai'i resource users' knowledge, attitudes, and perceptions of coral reefs in South Kohala*. Pacific Islands Fisheries Science Center Administrative Report. H-16-02, 71 p.

Have a publication to share?

Help us populate the list of social science publications by sending the citation to prss.socsci@noaa.gov

September is National Preparedness Month!

2017 Weekly Themes

Week 1: September 1-9	Make a Plan for Yourself, Family and Friends
Week 2: September 10-16	Plan to Help Your Neighbor and Community
Week 3: September 17-23	Practice and Build Out Your Plans
Week 4: September 24-30	Get Involved! Be a Part of Something Larger

For more information, visit https://www.ready.gov/september

Graphics: Ready.gov

We would like your input. Please send us ideas for stories, articles, or social science work that we should highlight.
You can contact us at: prss.socsci@noaa.gov